IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Gregory D. May et al.
Serial No. 10/027,249
Filed: 12/20/2001
For: **MEASURING OPTICAL SIGNAL POWER IN AN OPTICAL SYSTEM**

Examiner: Wang, Quan Zhen
Art Unit: 2613

Mail Stop Appeal Brief – Patents
Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

An **APPEAL BRIEF** is filed herewith. The Appellants enclose a payment in the amount of $510.00 as required by 37 C.F.R. § 1.17(c). If any additional fees are required in association with this appeal brief, the Director is hereby authorized to charge them to Deposit Account 50-1732, and consider this a petition therefor.

APPEAL BRIEF

(1) REAL PARTY IN INTEREST

The real party in interest is the assignee of record, i.e., Nortel Networks Limited of 2351 Boulevard Alfred-Nobel, St. Laurent, Quebec Canada H4S 2A9, which is wholly owned by Nortel Networks Corporation, a Canadian corporation.

(2) RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences to the best of the Appellants' knowledge.

(3) STATUS OF CLAIMS

Claims 1, 3-5, 7, 10-12, 14-18, 24, and 25 were rejected with the rejection made final on December 20, 2007.

Claims 2, 6, 8, 9, 13, and 19-23 were previously cancelled.

Claims 1, 3-5, 7, 10-12, 14-18, 24, and 25 are pending and are the subject of this appeal.

(4) STATUS OF AMENDMENTS

All amendments have been entered to the best of the Appellants' knowledge. No amendments have been filed after the Final Office Action mailed December 20, 2007.

(5) SUMMARY OF CLAIMED SUBJECT MATTER

In the following summary, the Appellants have noted where in the Specification certain subject matter exists. The Appellants wish to point out that these citations are for demonstrative purposes only and that the Specification may include additional discussion of the various elements, citations to which are not pointed out below. Thus, the noted citations are in no way intended to limit the scope of the pending claims.

The present invention measures optical signal strength in an optical system. According to the present invention, optical signals comprised of more than one wavelength pass through a wavelength select switch (Specification, p. 2, ll. 11, and p. 3, l. 20 through p. 4, l. 2; see also Figure 1, element 18) to a power meter (Specification, p. 2, ll. 12-13, and p. 4, ll. 3-7; see also Figure 1, element 20), where an optical amplifier (Specification, p. 2, ll. 7-8, and p. 2, l. 20 through p. 3, l. 1; see also Figure 1, element 12) boosts the gain of the signals. The power meter measures the power in the optical signals (Specification, p. 5, ll. 16-17; see also Figure 2, step 48) and then an indication of the optical signal power is displayed (Specification, p. 5, l. 22 through p. 6, line 3). The present invention also controls the optical amplifier using the measured optical power signal. In particular, a controller (Specification, p. 2, ll. 12-15; see also Figure 1, element 22) controls the optical amplifier by causing the optical amplifier to either increase or decrease the optical strength, such as increasing or decreasing the boost of a gain, of an optical signal (Figure 1, element 26), where the controller controls the optical amplifier in accordance with the measured power in the optical signal, thereby regulating optical signal power of the optical signals (Specification, p. 5, l. 22 through p. 6, line 16).

Independent claim 1 recites a method of measuring optical signal power in an optical system, comprising:

receiving optical signals (Figure 1, element 28) at a wavelength select switch (Specification, p. 2, ll. 11, and p. 5, ll. 13-14; see also Figure 1, element 18, and Figure 2, step 44);

passing a subset of the optical signals comprised of more than one individual wavelength through the wavelength select switch at substantially the same time to a power meter (Specification, p. 2, ll. 12-13, and p. 5, ll. 14-16; see also Figure 1, element 20, and Figure 2, step 46);

measuring power in the subset of optical signals using the power meter (Specification, p. 5, ll. 16-17; see also Figure 2, step 48);

displaying an indication of the optical signal power in the optical signals on a monitor (Specification, p. 4, ll. 19-20; see also Figure 1, element 37) to a system administrator (Specification, p. 4, ll. 17-20); and

controlling an optical amplifier in accordance with the power of the optical signals to regulate optical signal power of the optical signals (Specification, p. 5, l. 22 through p. 6, l. 16).

Independent claim 12 recites an apparatus (Specification, p. 2, ll. 5-7; see also Figure 1, element 10) for measuring optical signal power in an optical system, comprising:

a wavelength select switch (Specification, p. 2, l. 11; see also Figure 1, element 18) having output ports (Specification, p. 3, ll. 16-17; see also Figure 1, elements 32 and 34) to selectively pass received optical signals (Figure 1, element 28) to one of the output ports wherein the wavelength select switch passes a subset of the optical signals comprised of more than one individual wavelength to the one of the output ports at the same time and a power meter (Specification, p. 2, ll. 12-13; see also Figure 1, element 20) measures power in the subset of the optical signals (Specification, p. 5, ll. 16-17; see also Figure 2, step 48);

the power meter which receives optical signals (Figure 1, element 29) from an output port (Figure 1, element 34) and measures the power in the optical signals (Specification, p. 4, ll. 3-10, and p. 5, ll. 16-17; see also Figure 2, step 48);

a monitor (Specification, p. 4, ll. 19-20; see also Figure 1, element 37) for displaying an indication of the optical signal power in the optical signals to a system administrator (Specification, p. 4, ll. 17-20); and

a controller (Specification, p. 2, ll. 12-15; see also Figure 1, element 22) which controls an optical amplifier (Specification, p. 2, ll. 7-8; see also Figure 1, element 12) by generating a control signal for the optical amplifier in accordance with the power of the optical signals to regulate optical signal power of the optical signals (Specification, p. 5, l. 22 through p. 6, l. 16).

(6) GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

A. Whether claims 1, 3-5, 11, 12, 14-17, 24, and 25 were properly rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,873,795 B1 to *Sugaya* (hereinafter "*Sugaya*") in view of U.S. Patent Application Publication No. 2002/0176658 A1 to *Prohaska* (hereinafter "*Prohaska*") and further in view of U.S. Patent No. 5,521,701 to *Felger et al.* (hereinafter "*Felger*").

B. Whether claim 10 was properly rejected under 35 U.S.C. § 103(a) as being unpatentable over *Sugaya* in view of *Prohaska* and *Felger* and further in view of U.S. Patent No. 4,903,339 to *Solomon* (hereinafter "*Solomon*").

C. Whether claims 7 and 18 were properly rejected under 35 U.S.C. § 103(a) as being unpatentable over *Sugaya* in view of *Prohaska* and *Felger* and further in view of U.S. Patent No. 5,986,782 to *Alexander et al.* (hereinafter "*Alexander*").

(7) ARGUMENT

A. Introduction

The Patent Office has not shown where all the elements of the pending claims are shown in the prior art with sufficient particularity to sustain an obviousness rejection. In particular, the Patent Office has not shown where the prior art discloses the feature of controlling an optical amplifier in accordance with a power of optical signals in order to regulate the optical power of an optical signal. Furthermore, the Patent Office has not provided a proper motivation to combine the cited references. As such, the Appellants request that the Board reverse the Examiner and instruct the Examiner to allow the claims for these reasons along with the reasons noted below.

B. Summary Of References

1. U.S. Patent No. 6,873,795 B1 To *Sugaya*

Sugaya relates to a peak detection apparatus for detecting wavelength-division-multiplexed light peaks and an apparatus for controlling an intensity of wavelength-division-multiplexed light based upon maximum peak value.[1] In particular, *Sugaya* discloses a photodiode 31, which converts a wavelength-division-multiplexed signal into an electric signal,

[1] *See Sugaya*, col. 1, ll. 12-15.

and sends the electric signal to a total-power uniformalizing controller 32.[2] Furthermore, *Sugaya* discloses a control correction unit 33, which outputs a signal to an excitation light source 29 based on the output from the total-power uniformalizing controller 32 or a peak detection circuit 15.[3] In addition, the excitation light source 29 controls a level of light output from an optical amplifying fiber 28.[4] However, the excitation light source 29 does not control an optical signal power, i.e., increasing or decreasing the optical strength, of an optical signal. Instead, the excitation light source 29 controls the amount of light that is output from the optical amplifying fiber 28.

2. U.S. Patent Application Publication No. 2002/0176658 A1 To *Prohaska*

Prohaska discloses a re-configurable wavelength selective device having an input fiber and two output fibers.[5] A signal containing wavelengths $\lambda_1, \lambda_2, \ldots\lambda_n$, is input to the wavelength selective device at the input fiber.[6] According to *Prohaska*, a signal having a selected wavelength λ_i is output at one of the output fibers and signals having the remaining wavelengths $\lambda_1, \lambda_2, \ldots\lambda_{i-1}, \lambda_{i+1}, \ldots\lambda_n$, are output at the other output fiber.[7] However, *Prohaska* does not disclose or suggest controlling an optical amplifier in accordance with a power of optical signals in order to regulate the optical power of an optical signal.

3. U.S. Patent No. 5,521,701 To *Felger*

Felger relates to calibrating optical power meters for optical cables, systems, and applications.[8] *Felger* discloses an optical power meter 1 having plug-in modules 3 and 5.[9] The plug-in modules 3 and 5 contain an optical power source, an optical power sensor, a means for connecting the source and sensor to a fiber optic circuit, and a means for connecting the modules to a mainframe unit 2 of the optical power meter 1.[10] However, *Felger* does not disclose or

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[2] *See Sugaya*, col. 12, lines 50-55.
[3] *See Sugaya*, col. 12, line 65 through col. 13, line 17.
[4] *See Sugaya*, col. 11, lines 46-48.
[5] *See Prohaska*, paragraph **[0018]** and Abstract.
[6] *See Prohaska*, paragraph **[0018]** and Abstract.
[7] *See Prohaska*, paragraph **[0018]** and Abstract.
[8] *See Felger*, col. 1, ll. 11-14.
[9] *See Felger*, col. 5, ll. 26-27.
[10] *See Felger*, col. 5, ll. 27-31.

suggest controlling an optical amplifier in accordance with a power of optical signals in order to regulate the optical power of an optical signal.

4. U.S. Patent No. 4,903,339 To *Solomon*

Solomon relates to a system that detects an unauthorized attempt to tap an optical fiber of an optical communications system.[11] *Solomon* discloses modifying a data signal such that a transmitted signal includes synchronizing periodic waveform information as well as a fixed total power.[12] Synchronizing information is detected in a receiver and used to produce a local signal, which is combined with the transmitted signal.[13] According to *Solomon*, when a combined signal is out-of-balance as a result of extraction of power due to tapping of the optical fiber, an alarm is activated.[14] Nonetheless, *Solomon* does not disclose or suggest controlling an optical amplifier in accordance with a power of optical signals in order to regulate the optical power of an optical signal.

5. U.S. Patent No. 5,986,782 To *Alexander*

Alexander relates to monitoring systems that measure optical channel power and optical noise where the optical channel power and the optical noise are used to calculate a signal-to-noise ratio for an optical channel in a wavelength division multiplexing (WDM) system.[15] According to *Alexander*, a signal-to-noise monitoring system includes a wavelength selecting means, an optical power meter optically communicating with wavelength selecting means, and a data analyzing means electrically communicating with the optical power meter.[16] However, *Alexander* does not disclose or suggest controlling an optical amplifier in accordance with a power of optical signals in order to regulate the optical power of an optical signal.

C. Legal Standards For Establishing Obviousness

Section 103(a) of the Patent Act provides the statutory basis for an obviousness rejection and reads as follows:

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[11] *See Solomon*, col. 1, ll. 8-10.
[12] *See Solomon*, col. 1, ll. 15-18.
[13] *See Solomon*, col. 1, ll.18-20.
[14] *See Solomon*, col. 1, ll. 21-23.
[15] *See Alexander*, col. 1, ll. 8-9 and ll. 55-57.
[16] *See Alexander*, col. 6, ll. 27-44.

> A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Courts have interpreted 35 U.S.C. § 103(a) as a question of law based on underlying facts. As the Federal Circuit stated:

> Obviousness is ultimately a determination of law based on underlying determinations of fact. These underlying factual determinations include: (1) the scope and content of the prior art; (2) the level of ordinary skill in the art; (3) the differences between the claimed invention and the prior art; and (4) the extent of any proffered objective indicia of nonobviousness.[17]

Once the scope of the prior art is ascertained, the content of the prior art must be properly combined. "Often, it will be necessary for a court to look to interrelated teachings of multiple patents; the effects of demand known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue. To facilitate review, this analysis should be made explicit.[18] ("[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness")."[19]

Some elements may be inherent within the reference. "To establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill.'"[20] "The mere fact that a certain thing may result from a given set of circumstances is not sufficient."[21] Thus, the possibility that an element may be derived from the reference is insufficient to establish that said element is inherent to the reference.

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[17] *Monarch Knitting Mach. Corp. v. Sulzer Morat GmBH*, 45 U.S.P.Q.2d (BNA) 1977, 1981 (Fed. Cir. 1998) (internal citations omitted).

[18] See *In re Kahn*, 441 F. 3d 977, 988 (CA Fed. 2006).

[19] *KSR Int'l v. Teleflex, Inc.*, No. 04-1350, slip op. at 14 (U.S., Apr. 30, 2007).

[20] *In re Robertson*, 169 F.3d 743, 745 (Fed. Cir. 1999) (quoting *Cont'l Can Co. v. Monsanto Co.*, 948 F.2d 1264, 1268 (Fed. Cir. 1991)).

[21] *Id.* (citation and quotation omitted).

Whether an element is implicitly or explicitly taught by a reference or combination of references is open to interpretation. While the Patent Office is entitled to give claim terms their broadest reasonable interpretation, this interpretation is limited by a number of factors. First, the interpretation must be consistent with the specification.[22] Second, the broadest reasonable interpretation of the claims must also be consistent with the interpretation that those skilled in the art would reach.[23] Finally, the interpretation must be reasonable.[24] This means that the words of the claim must be given their plain meaning unless Appellant has provided a clear definition in the specification.[25]

If a claim element is missing after the combination is made, then the combination does not render obvious the claimed invention, and the claims are allowable. As stated by the Federal Circuit, "[if] the PTO fails to meet this burden, then the Appellant is entitled to the patent."[26]

D. Claims 1, 3-5, 11, 12, 14-17, 24, And 25 Are Patentable Over *Sugaya* In View Of *Prohaska* And *Felger*

Claims 1, 3-5, 11, 12, 14-17, 24, and 25 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Sugaya* in view of *Prohaska* and further in view of *Felger*. The Appellants respectfully traverse the rejection.

1. None Of The References, Either Alone Or In Combination, Disclose Or Suggest Controlling An Optical Amplifier In Accordance With A Power Of Optical Signals In Order To Regulate The Optical Power Of An Optical Signal

According to Chapter 2143.03 of the M.P.E.P., in order to "establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art." The Appellants submit that none of the references, either alone or in combination, disclose or suggest all the features recited in claims 1, 3-5, 11, 12, 14-17, 24, and 25. More specifically, claim 1 recites a method of measuring optical signal power comprising, among other features, "controlling an optical amplifier in accordance with the power of the optical signals to regulate optical power of the optical signals." The Appellants submit that none of the

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[22] *In re Hyatt*, 211 F.3d 1367, 1372 (Fed. Cir. 2000); MPEP § 2111.
[23] *In re Cortright*, 165 F.3d 1353, 1359, (Fed. Cir. 1999); MPEP § 2111.
[24] *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1369 (Fed. Cir. 2004); MPEP § 2111.01.
[25] *In re Zletz*, 893 F.2d 319, 321 (Fed. Cir. 1989).
[26] *In re Glaug*, 283 F.3d 1335, 1338 (Fed. Cir. 2002).

references, either alone or in combination, disclose or suggest controlling an optical amplifier in accordance with a power of optical signals in order to regulate the optical power of an optical signal. In maintaining the rejection, the Patent Office asserts that *Sugaya* discloses this feature in Figure 11.[27] The Appellants respectfully disagree.

More specifically, *Sugaya* discloses a photodiode 31, which converts a wavelength-division-multiplexed signal into an electric signal, and sends the electric signal to a total-power uniformalizing controller 32.[28] Furthermore, *Sugaya* discloses a control correction unit 33, which outputs a signal to an excitation light source 29 based on the output from the total-power uniformalizing controller 32 or a peak detection circuit 15.[29] The excitation light source 29 emits light, which is multiplexed with light passing through an optical fiber 21 before the light enters an optical amplifying fiber 28.[30] Thus, the excitation light source 29 controls a level of light input into the optical amplifying fiber 28 and then output based on the level of light input into into the optical amplifying fiber 28.[31] However, the excitation light source 29 is not controlling the optical amplifying fiber 28 itself. Instead, the excitation light source is merely controlling the amount of light which is input into, and then output from, the optical amplifying fiber 28. Moreover, neither *Prohaska* nor *Felger*, either alone or in combination, discloses or suggests controlling an optical amplifier in accordance with a power of optical signals in order to regulate the optical power of an optical signal. Therefore, claim 1 is patentable over the cited references and the Appellants request that the rejection be withdrawn. Similarly, claims 3-5, 11, and 24, which depend from claim 1, are patentable for at least the same reasons along with the novel features recited therein.

2. None Of The References, Either Alone Or In Combination, Disclose Or Suggest A Controller, Which Controls An Optical Amplifier By Generating A Control Signal In Accordance With A Power Of Optical Signals To Regulate Optical Power Of The Optical Signals

Claim 12 recites an apparatus for measuring optical signal power comprising, among other features, "a controller which controls an optical amplifier by generating a control signal for an optical amplifier in accordance with the power of the optical signals to regulate optical power

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[27] *See* Final Office Action mailed December 20, 2007, page 6.
[28] *See Sugaya*, col. 12, lines 50-55.
[29] *See Sugaya*, col. 12, line 65 – col. 13, line 17.
[30] *See Sugaya*, col. 11, ll. 22-25.
[31] *See Sugaya*, col. 11, lines 46-48.

of the optical signals." As detailed above, none of the cited references, either alone or in combination, disclose or suggest controlling an optical amplifier in accordance with a power of optical signals in order to regulate the optical power of an optical signal. Thus, it follows that none of the references, either alone or in combination, can disclose or suggest a controller, which controls an optical amplifier by generating a control signal in accordance with a power of optical signals to regulate optical power of the optical signals. As such, claim 12 is patentable over the cited references and the Appellants request that the rejection be withdrawn. Likewise, claims 14-17 and 25, which depend from claim 12, are patentable for at least the same reasons along with the novel features recited therein.

3. There Is No Apparent Reason To Combine The Teachings Of *Sugaya*, *Prohaska*, And *Felger*

Some inventions are combinations of known elements. One of the factors that makes an invention patentable is that there is no suggestion in the prior art to combine the known elements in the manner claimed. The Patent Office has the unenviable task of casting itself back to the time of the invention, examining the references, and determining if the invention was obvious to someone skilled in the art. The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination.[32] "There are three possible sources for a motivation to combine references: the nature of the problem to be solved, the teachings of the prior art, and the knowledge of persons of ordinary skill in the art."[33]

"Often, it will be necessary for a court to look to interrelated teachings of multiple patents; the effects of demand known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue. To facilitate review, this analysis should be made explicit.[34] ("[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements;

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[32] *In re Mills*, 916 F.2d 680, 16 U.S.P.Q.2d (BNA) 1430 (Fed. Cir. 1990).
[33] *In re Rouffet*, 149 F.3d 1350, 1357, 47 U.S.P.Q.2d (BNA) 1453, 1457-58 (Fed. Cir. 1998).
[34] See *In re Kahn*, 441 F.3d 977, 988 (CA Fed. 2006)

instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness").[35]

The Appellants submit that there is no apparent reason to combine the teachings of *Sugaya*, *Prohaska*, and *Felger*. In particular, *Sugaya* relates to detecting peaks in wavelength-division-multiplexed light and controlling the wavelength-division-multiplexed light.[36] Moreover, *Sugaya* addresses problems associated with detecting and controlling wavelength-division-multiplexed light.[37] In contrast, as mentioned above, *Prohaska* relates to a wavelength selective device. Specifically, *Prohaska* addresses problems associated with wavelength and dispersion management in optical networks.[38] The Appellants submit that there is no apparent reason to combine a reference related to detecting and controlling wavelength-division-multiplexed light with a reference related to wavelength and dispersion management in optical networks.

Furthermore, even assuming, *arguendo*, that somehow, a motivation to combine *Sugaya* and *Prohaska* existed, there still is no motivation to combine *Felger* with *Sugaya* and *Prohaska*. As mentioned above, *Felger* relates to calibrating optical power meters to optical cables, systems, and applications. *Felger* addresses problems associated with the adaptability of optical power meters with different fiber optic systems.[39] The Appellants submit that there is no apparent reason to combine a reference relating to the adaptability of optical power meters with different fiber optic systems with references relating to detecting and controlling wavelength-division-multiplexed light and wavelength and dispersion management in optical networks. For this additional reason, claims 1 and 12 are patentable over the cited references for at least this reason and the reasons noted above. Likewise, claims 3-5, 11, 14-17, 24, and 25, which variously depend from either claim 1 or claim 12, are patentable for at least the same reasons along with the novel features recited therein.

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[35] *KSR Int'l v. Teleflex, Inc.*, No. 04-1350 (U.S., Apr. 30, 2007), slip op. at 14.
[36] *See Sugaya*, col. 1, ll. 9-11.
[37] *See Sugaya*, col. 3, ll. 39-42.
[38] *See Prohaska*, paragraph **[0001]**.
[39] *See Felger*, col. 1, ll. 27-47.

E. Claim 10 Is Patentable Over *Sugaya* In View Of *Prohaska* And *Felger* And Further In View Of *Solomon*

Claim 10 was rejected under 35 U.S.C. § 103(a) as being unpatentable over *Sugaya* in view of *Prohaska* and *Felger* and further in view of *Solomon*. The Appellants respectfully traverse the rejection. As detailed above, claim 1, the base claim from which claim 10 depends, is patentable over *Sugaya* in view of *Prohaska* and *Felger*. Moreover, *Solomon* fails to overcome the previously noted shortcomings of *Sugaya*, *Prohaska*, and *Felger*. Thus, claim 10 is patentable over the cited references and the Appellants request that the rejection be withdrawn.

F. Claims 7 And 8 Are Patentable Over *Sugaya* In View Of *Prohaska* And *Felger* And Further In View Of *Alexander*

Claims 7 and 18 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Sugaya* in view of *Prohaska* and *Felger* and further in view of *Alexander*. The Appellants respectfully traverse the rejection. As discussed above, claims 1 and 12, the base claims from which claims 7 and 18 respectively depend, are patentable over *Sugaya* in view of *Prohaska* and *Felger*. In addition, *Alexander* does not address the previously noted deficiencies of *Sugaya*, *Prohaska*, and *Felger*. Thus, claims 7 and 18 are patentable over the cited references and the Appellants request that the rejection be withdrawn.

G. Conclusion

As set forth above, none of the cited references, either alone or in combination, disclose or suggest the feature of controlling an optical amplifier in accordance with a power of optical signals in order to regulate the optical power of an optical signal. Furthermore, the Patent Office has not established the proper motivation to combine the references. As such, the Appellants request that the Board reverse the Examiner and instruct the Examiner to allow the claims.

Respectfully submitted,
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(8) CLAIMS APPENDIX

1. A method of measuring optical signal power in an optical system, comprising:

receiving optical signals at a wavelength select switch;

passing a subset of the optical signals comprised of more than one individual wavelength through the wavelength select switch at substantially the same time to a power meter;

measuring power in the subset of optical signals using the power meter;

displaying an indication of the optical signal power in the optical signals on a monitor to a system administrator; and

controlling an optical amplifier in accordance with the power of the optical signals to regulate optical signal power of the optical signals.

2. (Cancelled).

3. The method of claim 1 wherein the optical signals comprise different wavelengths of optical energy.

4. The method of claim 1, further comprising:

diverting a portion of optical energy on an optical medium to obtain the optical signals.

5. The method of claim 4 wherein diverting comprises:

using a power splitter to divert a portion of the optical signal power from an incident signal.

6. (Cancelled).

7. The method of claim 1, further comprising:

successively directing other ones of the optical signals through the wavelength select switch to the power meter; and

measuring power in the other optical signals using the power meter.

8-9. (Cancelled).

10. The method of claim 1, further comprising:

determining if the power in the optical signals has crossed a predetermined threshold; and

triggering an alarm if the power in the optical signals has crossed the predetermined threshold.

11. The method of claim 1, wherein the optical system includes a transmission medium from which the optical signals are received, wherein the operation of controlling an optical amplifier further comprises:

controlling the optical amplifier in accordance with the power of the optical signals to regulate optical power of the optical signals on the transmission medium.

12. Apparatus for measuring optical signal power in an optical system, comprising:

a wavelength select switch having output ports to selectively pass received optical signals to one of the output ports wherein the wavelength select switch passes a subset of the optical signals comprised of more than one individual wavelength to the one of the output ports at the same time and a power meter measures power in the subset of the optical signals;

the power meter which receives optical signals from an output port and measures the power in the optical signals;

a monitor for displaying an indication of the optical signal power in the optical signals to a system administrator; and

a controller which controls an optical amplifier by generating a control signal for the optical amplifier in accordance with the power of the optical signals to regulate optical signal power of the optical signals.

13. (Cancelled).

14. The apparatus of claim 12 wherein the optical signals comprise different wavelengths of light.

15. The apparatus of claim 12, further comprising:

an optical tap that diverts a portion of optical signals incident on an optical medium to obtain the optical signals.

16. The apparatus of claim 15 wherein the optical tap diverts a portion of power from the optical signals.

17. The apparatus of claim 12 wherein the optical system comprises a dense wavelength division multiplexing (DWDM) system.

18. The apparatus of claim 12 wherein the wavelength select switch cycles others of the optical signals to the output port and the power meter measures power in the others of the optical signals.

19-23. (Cancelled).

24. The method of claim 1, wherein measuring power in the subset of optical signals using the power meter, comprises:

combining the power of all of the optical signals in the subset.

25. The apparatus of claim 12 wherein the power of the optical signals measured by the power meter is the combined power of the optical signals.

(9) EVIDENCE APPENDIX

The Appellants rely on no evidence, thus this appendix is not applicable.

(10) RELATED PROCEEDINGS APPENDIX

As there are no related proceedings, this appendix is not applicable.